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The File, Project 2099 [redacted]

16 April 1968

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Comparison of the New and Old Models of the RMR-13 Receiver

1. A [redacted] Field Test was made from Florida to the [redacted] Base Station starting on 10 April and continuing through the week. This test was carried out using the unique operational procedure which was determined best from previous tests.

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2. The base station used the latest model of the RMR-13 receiver. This unit was mounted in a small rack with two Magnetocorder Recorder units. The rack was used beside a dual receiver operating position with a 51-J3 receiver for the [redacted] test. The position also contained an oscilloscope. Another position was set up, by the laboratory representative, using the old model RMR-13 receiver, a 51-J3 receiver, a Magnetocorder Recorder and an oscilloscope.

50X1

3. The purpose of the second position was to obtain [redacted] transmission recordings simultaneously with the first position. With both positions using the same antenna and similar equipment as already mentioned, three transmissions were recorded at the two positions. The two tapes were brought back to the ESD Laboratory for comparison purposes.

50X1

4. Both tapes were rebuffed and reduced in speed by a factor of 16. Then each of the two recordings were put onto a half track recording on the Laboratory's Ampex dual channel recorder. This enables a person to make an equal comparison of the two recordings by listening to either channel.

5. The results observed from this test closely follow the philosophy that went into the redesign of the RMR-13. Briefly, this was to facilitate the aligning of the RMR-13 to the communications receiver being used and to reduce the selectivity of the 10 kc band-pass filter in order to reduce the ringing caused by noise.

6. During the time that the initial recordings were being made both oscilloscopes were observed and it was very apparent that the new model RMR-13 was producing pulses with better definition as well as less undesirable hash between pulses.

7. The base station operator [redacted] from OMF) was very enthusiastic about the new calibration procedure. He felt that it was an easier, quicker and a more reliable method than the previous procedure.

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8. In listening to the redubbed recordings from this test, it becomes very obvious that the copy from the new model is clearer and more understandable than from the older unit. The recording from the older RMR-13 has an unaccountable high frequency tone present on it. This may have been caused by a local condition rather than the system itself.

9. In all respects the new model of the RMR-13 seems to be an improvement for the on-off type of operation. It is recommended that this model receiver be used for all [redacted] type of transmissions as it can be easily converted for FSK type of operation if necessary.

50X1

10. The comparison recording is being retained at the R&D Laboratory for anyone wishing to hear the results from this test.

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Lab/CM/jcm (16 April 1956)



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